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MMC1/0829

EXAMINER

MULLINS, B

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

08/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/632,412

Applicant(s)
Kalsi

Examiner
Burton S. Mullins

Art Unit
2834



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____


BURTON S. MULLINS
PRIMARY EXAMINER

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. It is not clear if the transposed positions of the first and second conductors at the end region (claim 4) are shown. The features must be shown or canceled from the claim(s). No new matter should be entered

Specification

2. The disclosure is objected to because of the following informalities: It is not clear what the term "in hand" means (p.2, lines 5&9), "two-in hand" p.17, lines 8&22), or "three-in hand (p.18, line 9). On p.17, line 25, "Fig.28" does not exist. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1 and 11, recitation "in-hand" is vague and indefinite. Does this mean "in the same slot?" Or does it refer to some kind of winding arrangement of the coils? If this is standard terminology in the art, the examiner requests documentation supporting this usage. Regarding claims 3 and 13, recitation "at and end region of the stator, the first conductor is wound over the second conductor along the axis in a second direction, opposite the first direction to form a second layer..." is vague, indefinite and confusing. How can the first conductor be

wound over the other in two different directions? What does it mean for a winding to be "wound over the second conductor along the axis in a first direction?" In claims 4 and 14, are the positions transposed only at the end region, or along the entire axial length of the coil? The cross-section of Fig.17 seems to indicate the latter.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 9, 11-12 & 19, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Flick et al. (US 4,292,558). Flick teaches a stator including first and second electrical conductors comprising spiral pancake coils 36 with coil turns 42, each wound over adjacent coils and along the longitudinal axis (Fig.3). Isolation means between the conductors may comprise "strongbacks" 46 made of glass fiber and placed between the coils (Fig.2) or insulation shown wrapped about each conductor coil turn 42 (Figs.5-7). Regarding claim 2, the coil turns 42 are serially connected (c.3, lines 38-40). Regarding method claims 11-12 and 19, since the structural limitations of the claims are met by Flick, the method of manufacturing is inherent.

6. Claims 1-4, 9-14 & 19-20, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Liwschitz-Garik (*Winding Alternating Current Machines*, pp.1-25, 1950).

Liwschitz-Garik teaches two-layer stator coil winding (Fig.1-4) including first and second electrical conductors wound one over the other along the longitudinal axis, with connected ends. Regarding claim 3, as best understood, the end of the first conductor is wound over the second conductor along the axis (Figs.1-4 & 2-3c) in a double-layer winding scheme. Regarding copper conductors, these are explicitly taught at p.19, line 18.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.


8. Claims 5-8 and 15-18, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Liwschitz-Garik in view of Flick (US 4,427,907). Liwschitz-Garik teaches the general structure of the stator windings but does not teach pancake coils, per se (claim 5). Flick teaches pancake windings with race-track shape (Fig.3). The pancake windings allow for easier inspection and maintenance (c.1, lines 55-63). It would have been obvious for one of ordinary skill in the art to provide pancake windings per Flick on the coil structures of Liwschitz-Garik to make it more amenable for inspection and maintenance.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is (703) 305-7063.

bsm

August 24, 2001


BURTON S. MULLINS
PRIMARY EXAMINER